

## The Claims

What is claimed is:

- 5                   1.       A bone fusion implant for repair or replacement of bone comprising a hollow body formed from at least two bone fragments which are configured and dimensioned for mutual engagement and which are coupled together.
2.       The implant of claim 1, wherein at least one bone fragment has a first  
10 coupling portion and at least one bone fragment has a second coupling portion, and wherein the bone fragments are joined together by interfitting together the first and second coupling portions.
3.       The implant of claim 2, wherein the first coupling portion is a male  
15 coupling portion and the second coupling portion is a female coupling portion so that the bone fragments are mated in a male-female relationship.
4.       The implant of claim 3, wherein the male coupling portion is a tenon  
and the female coupling portion is a mortise.  
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5.       The implant of claim 3, wherein the male coupling portion is a tongue  
and the female coupling portion is a groove.
6.       The implant of claim 1, wherein the fragments are configured and  
25 dimensioned to form a dovetail joint.
7.       The implant of claim 1, wherein the at least two bone fragments are concentric hollow cylinders.
- 30                   8.       The implant of claim 1, further comprising a core formed of at least one of bone material and bone inducing substances, the core being disposed in the hollow body.
9.       The implant of claim 8, wherein the core is formed of cancellous bone  
35 with a fluid concentrated therein.

10. The implant of claim 9, wherein the cancellous bone is subjected to mechanical pressure to concentrate the fluid.

11. The implant of claim 10, wherein the mechanical pressure is applied  
5 by aspiration.

12. The implant of claim 9, wherein the fluid is concentrated by soaking.

13. The implant of claim 1, wherein the hollow body comprises at least  
10 one of autograft, allograft, and xenograft bone tissue.

14. The implant of claim 13, wherein the bone tissue of at least one bone fragment is partially demineralized or demineralized.

15. The implant of claim 1, wherein at least one of the bone fragments is  
at least partially dehydrated to mate against another bone fragment.

16. The implant of claim 1, wherein the hollow body further comprises a completely enclosed hollow region.

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